

DIPLOMA IN COMPUTER APPLICATIONS
24DCA101: COMPUTER FUNDAMENTALS
ODD SEMESTER

Contact Hours / Week: 2

Internal Marks: 25

External Marks: 75

Course Overview

This course is designed to introduce students to the fundamental concepts of computers and their applications. The syllabus is divided into five units, covering essential aspects of computer hardware, software, productivity tools, and the internet.

Course Outcomes:

Unit No.	CO. No.	Upon completion of the course, the students will be able to	Cognitive Level
Unit - I	CO1	Understand the foundational concepts of computers and their components.	K1 – K2
Unit - II	CO2	Gain proficiency in MS-Word, MS-Excel, and PowerPoint.	K1 – K2
Unit - III	CO3	Effectively utilize the internet for communication and transactions.	K1 – K2
Unit - IV	CO4	Develop the skills to create professional documents, spreadsheets, and presentations.	K1 – K2
Unit - V	CO5	Be aware of digital tools and their role in modern-day e-commerce.	K1 – K2

SYLLABUS

Unit - I Introduction to Computer

Introduction to Computer:-Definition-Characteristics- Generations of Computer – Data and Information – Components of Computer – Software – Hardware – Input Devices - Output Devices — Types of Operating System.

Unit - II MS-Word

Introduction to MS-Word – Working with Documents -Opening & Saving files, Editing text documents - Menu bar – Task bar – Status bar– Toolbar – Manipulating Images – Formatting Documents - Setting Font styles, Font selection -Graphic elements – Charts – Collaborating on documents –Securing a document – Hyper Link – Shortcut keys – Header and Footer – Tables- Table settings, Borders, Alignments, Insertion, deletion, Merging, Splitting, Sorting,

and Formula – Mail Merge - Managing Document Security, Comments and Tracked changes – Spell check -Auto correct.

Unit - III MS – Excel

Introduction – Inserting rows and columns – Sizing rows and columns – Implementing formulas – Generating series - Functions in excel – Creation of Chart – Inserting objects – Filter – Sorting – Inserting worksheet.

Unit - IV Power Point

Introduction – Slides Manipulation (Inserting new, Copy, paste, delete and duplicate slides) – Slide show– Types of Views – Types of Animations – Inserting Objects – Implementing multimedia (Video and Audio) – Templates (Built-in and User-Defined).

Unit - V Internet

Introduction to Internet and Intranet – Services of Internet - Domain Name – URL – Browser – Types of Browsers – Search Engine - E-Mail – Basic Components of E-Mail –How to send group mail. E-Commerce: Digital Signature – Digital Currency – Online shopping and transaction.

Text Books

1. Reema Tareja, “Fundamentals of Computer”, 2nd Edition, Oxford University Press, 2019.
2. Pradeep K. Sinha&PritiSinha, “Computer Fundamentals”, 6th Edition, BPB Publications, 2017.

24DCA151: OFFICE AUTOMATION LAB

Contact Hours / Week: 2

Internal Marks: 40

External Marks: 60

Course Overview

The course is designed to provide practical knowledge of creating, editing, and managing documents, spreadsheets, presentations, and internet-based tools to enhance their efficiency in office-related tasks.

Course Outcomes:

CO. No.	Upon completion of the course, the students will be able to	Cognitive Level
CO1	Demonstrate the ability to use office automation tools effectively	K1 – K3
CO2	Prepare professional-quality documents, spreadsheets, and presentations.	K1 – K3
CO3	Manage and organize online communications and data efficiently.	K1 – K3
CO4	Develop digital skills to enhance productivity in academic and professional settings.	K1 – K3

SYLLABUS

MS WORD

1. Text manipulation – Change the font size and type - aligning and justification of text – Underlining the text – Indenting the text.
 - i. Prepare a Bio-data
 - ii. Prepare a Letter
2. Usages of numbering, bullets, footer and header - usage of spell check, find and replace.
 - i. Prepare a document in newspaper format
 - ii. Prepare a document with bullets and footers and headers
3. Tables and manipulation – Creation, insertion, deletion and usage of Auto format.
 - i. Create a calendar and auto format it.
 - ii. Create a mark sheet.

4. Picture insertion and alignment.

- i. Prepare a greeting card.

MS EXCEL

1. Usage of formula and built-in functions.
2. Student mark list preparation.
3. Employees pay bill preparation.
4. Invoice bill preparation and draw a graph.

MS POWER POINT

1. Create a slide show presentation for a seminar.

- i. Enter the text in outline view
- ii. Create non-bulleted and bulleted body text
- iii. Apply the appropriate text attributes.

2. Create a slide show presentation for an invitation.

- i. Insert an object from a bitmap file
- ii. Enter the text in the slide show
- iii. Apply shadow to the object
- iv. Rotate the object of 45 degree.

3. Create a slide show presentation to display percentage of marks in each semester.

- i. Use bar chart
- ii. Use different presentation template and different transition effect.
- iii. Use different text attributes in each slide.

24DCA102: PROGRAMMING IN C

Contact Hours / Week: 2

Internal Marks: 25

External Marks: 75

Course Overview

This course provides a comprehensive introduction to the C programming language, focusing on its structure, syntax, and essential features. Through practical examples and exercises, students will explore topics such as control structures, arrays, functions, pointers, structures, and file handling.

Course Outcomes:

Unit No.	CO. No.	Upon completion of the course, the students will be able to	Cognitive Level
Unit - I	CO1	Understand the history and significance of the C programming language.	K1 – K2
Unit - II	CO2	Learn the basic structure and syntax of a C program.	K1 – K2
Unit - III	CO3	Effectively utilize the internet for communication and transactions.	K1 – K2
Unit - IV	CO4	Gain proficiency in working with pointers and understand their relationship with arrays and functions.	K1 – K2
Unit - V	CO5	Learn to create, access, and manipulate data using structures and files.	K1 – K2

SYLLABUS

UNIT- I Introduction to C Programming

History of C and its importance – Structure of a C program – Data Types – Constants and Variables – Operators and Expressions

UNIT - II Control Structure

Control structures – if, if else, Nested if- Looping- While Loop- for Loop- do while Loop-

UNIT - III Arrays & Functions

Arrays – single dimensional arrays – declaration –memory representation– initialization and access. 2D arrays - Strings – defining strings, initializing, accessing - Functions – definition-declaration-prototypes and function call.

UNIT – IV Pointers

Introduction – Pointer Expressions – Chain of Pointers –Pointers and Arrays – Array of Pointers – Pointers to Functions.

UNIT - V Structure & Files

Structures: Introduction – Defining a structure – Declaration of structure – Accessing Structures members –Union. Files: Opening and closing files – Operations on files.

Text Book

1. E. Balagurusamy, “Programming in ANSI C”, 8th Edition, McGraw Hill, 1st January 2024.

24DCA152: PROGRAMMING IN C LAB

Contact Hours / Week: 2

Internal Marks: 40

External Marks: 60

Course Overview

The **Programming in C Lab** course is designed to provide students with hands-on experience in the fundamentals of C programming. Through practical exercises and real-world problem-solving, students will learn to write, debug, and execute C programs effectively.

Course Outcomes:

CO. No.	Upon completion of the course, the students will be able to	Cognitive Level
CO1	Demonstrate the ability to write, compile, and execute C programs for various computational problems.	K1 – K3
CO2	Apply control structures, loops, and expressions effectively in program design.	K1 – K3
CO3	Use arrays, strings, and functions to solve real-world problems efficiently.	K1 – K3
CO4	Utilize pointers for dynamic memory access and array manipulations.	K1 – K3
CO5	Implement file-handling operations to read, write, and manage persistent data.	K1 – K3

SYLLABUS

1. Write C program to find the sum and average of given set of numbers.
2. Write C program to find whether the given number is odd or even.
3. Write C program to the greatest of three numbers.
4. Write C program to solve quadratic equation.
5. Write C program to sort the given set of number using array.
6. Write C program to check whether the given string is palindrome or not.
7. Write C Program to find factorial of a given number.
8. Write C program to generate Fibonacci series of a given number.

9. Write C program to reverse a number using pointer.
10. Write C program to create file containing student details.



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DIPLOMA IN COMPUTER APPLICATIONS

EVEN SEMESTER

24DCA103: PYTHON PROGRAMMING

Syllabus

Unit I: Introduction to Python

Introduction to Python: Features of Python - How to Run Python - Identifiers - Reserved Keywords - Variables - Comments in Python - Indentation in Python - Multi-Line Statements - Multiple Statement Group (Suite) - Quotes in Python - Input, Output and Import Functions - Operators. Data Types and Operations: Numbers – Strings – List – Tuple – Set – Dictionary – Data type conversion.

Unit II: Functions

Flow Control: Decision Making – Loops – Nested Loops – Types of Loops. Functions: Function Definition – Function Calling - Function Arguments - Anonymous Functions (Lambda Functions)- Recursive Functions - Function with more than one return value.

Unit III : Modules and Packages: Built-in Modules - Creating Modules - import Statement - Locating Modules - Namespaces and Scope - The dir() function - The reload() function - Packages in Python - Date and Time Modules.

Unit IV: Object Oriented Programming : Classes and Objects, Creating Classes in Python, Creating Objects in Python, The Constructor Method, Classes with Multiple Objects, Class Attributes versus Data attributes, Encapsulation, Inheritance, The Polymorphism.

Unit V: Files:

Files: Opening a File, Closing a File, Writing to a File, Reading from a File, File Methods, Renaming a File, Deleting a File-Directory in Python.

Text Book:

1. Martin C. Brown, Python: The Complete Reference, 4th Edition, Mc-Graw Hill, 2018.

24DCA153: PYTHON PROGRAMMING LAB

Syllabus

1. Write a Python program that demonstrates the use of variables, constants, and input/output statements.
2. Create a Program using Operators in Python.
3. Write a Python Program using Conditional Statements.
4. Develop a Program using Loops, List and Tuples.
5. Implement the concepts of functions in Python.
6. Write a Python Program using String handling functions.
7. Create a Program using Modules in Python.
8. Develop a Program using Dictionaries in Python.
9. Implement the concepts of exceptional handling in Python.
10. Write a Program using File Handling concepts.

24DCA104: WEB DESIGN

Syllabus

Unit I : Introduction to the Internet

Computers in Business – E Mail - World Wide Web – Internet Technologies – Internet Addressing – Physical Connections – Internet Browser and its types

Unit II : Introduction to HTML

Designing a Home page – History of HTML – HTML Generations – HTML Documents – Anchor Tag – Hyper Links – Head & Body sections – Colourful web pages – Comment Lines

Unit III: Formatting Tags

Heading printing – Aligning the Headings – Horizontal Rule – Paragraph – Tab Settings – Images and Pictures – Ordered List – Unordered List – Nested Lists

Unit IV: Table Handling

Tables – Table Creation in HTML – Width of the Table and Cells – Cells Spanning Multiple Rows and Columns – Coloring Cells – Column Specification

Unit V: DHTML and Style Sheets

Defining Styles – Elements of Styles – Linking a Style Sheet to an HTML Document – In line Styles – External Style Sheets – Internal Style Sheets – Multiple Styles – Web page design & publishing

Text Book :

Unit I – V: Xavier.C, *World Wide Web Design with HTML*, McGraw Hill Education pvt. Ltd.

Reference Books:

1. Kogent Learning Solutions Inc., Web Technologies Black Book, Dreamtech Press, 2009.
2. Joel Sklar, Principles of Web Design, Cengage Learning, 6th Edition, 2015.

24DCA154: WEB DESIGN LAB

Syllabus

1. Design a page having suitable background colour and text colour with title “My First Web Page” using all the attributes of the Font tag.
2. Create a HTML document giving details of your [Name, Age], [Address, Phone] and [Register Number, Class] aligned in proper order using alignment attributes of Paragraph tag.
3. Write HTML code to design a page containing some text in a paragraph by giving suitable heading
4. Create a page to show different character formatting (B, I, U, SUB, SUP) tags.
5. Write HTML code to create a Web Page that contains an Image at its centre.
6. Create web Pages using Anchor tag with its attributes for external links

7. Write a HTML code to create a web page with pink color background and display moving message in red color.
8. Create a web page, showing an ordered list of all second semester courses (Subjects)
Write a HTML document to demonstrate Formatting tags.
9. Develop HTML document to demonstrate Ordered lists, unordered Lists, definition Lists.
10. Write an HTML document to create table header rows, data rows, caption and Attributes of the table tag.
11. Create an HTML document to cell padding and cell spacing, Bgcolor, Colspan and Row span attribute.
12. Develop an HTML document using frameset and the targeting named frames.